2011 NASA CONFERENCE ON INTELLIGENT DATA UNDERSTANDING
Mountain View, CA | October 19-21, 2011

Wednesday, Oct 19

12:30 Registration

1:30	**Invited Talk: Ontology, Verb Meaning and Semantic Roles**	**Fernando Gomez, University of Central Florida**
2:00	**Invited Talk: Semantic Annotation of Complex Text Structures in Problem Reports**	**Jane Malin, NASA Johnson Space Center**

2:30 Coffee Break

3:00	**Tutorial: Introduction to Machine Learning**	**Arindam Banerjee, University of Minnesota**

Thursday, Oct 20

8:00 Registration

8:30	**Opening Remarks**	**Ashok Srivastava, NASA Ames Research Center**
8:45	**Keynote Talk: The Data Challenge in Climate Science**	**Gavin Schmidt, NASA Goddard Institute for Space Studies**

9:45 Coffee Break

10:15	**Invited Talk: Improving Air Traffic Operations through Data Analysis and Modeling**	**Hamsa Balakrishnan, Massachusetts Institute of Technology**

Session 1 - Chair: Arindam Banerjee

11:00	A Sustainable Approach for Demand Prediction in Smart Grids using a Distributed Local Asynchronous Algorithm	Rajarshi Mallik, Hillol Kargupta
11:20	P-MATCH and QUBIT - Methods for Extracting Critical Information from Free Text Data for Systems Health Management	Anne Kao, Stephen Poteet, David Augustine
11:40	Data Guided Discovery of Dynamic Climate Dipoles	Jaya Kawale, Stefan Liess, Arjun Kumar, Michael Steinbach, Auroop Ganguly, Nagiza Samatova, Fred Semazzi, Peter Snyder, Vipin Kumar
12:00	Lunch + **Lunch Keynote: Lessons Learned in Data Analysis and Predictive Modeling for Ads Quality**	**Sugato Basu, Google Research**

Session 2 - Chair: Kiri Wagstaff

1:30	Incorporating Natural Variation into Time Series-Based Land Cover Change Detection	Varun Mithal, Ashish Garg, Ivan Brugere, Shyam Boriah, Vipin Kumar, Michael Steinbach, Christopher Potter, Steven Klooster
1:50	Pseudo-Label Generation for Multi-Label Text Classification	Mohammad Salim Ahmed, Latifur Khan, Nikunj Oza
2:10	A Stochastic Methodology for Prognostics Under Time-Varying Environmental Future Profiles	Linkan Bian, Nagi Gebraeel

2:30 Coffee Break

3:00	**Panel Discussion: Emerging Issues in Data to Understanding to Knowledge Discovery in Earth, Space, and Aero Sciences**	**Moderator: Nitesh Chawla** **Panelists: Hamsa Balakrishnan, David Hogg, Vipin Kumar, Gavin Schmidt**
5:00	**Introduction of Poster Presenters**	**Kanishka Bhaduri, NASA Ames Research Center**
5:30	**Poster Session & Reception**	

Friday, Oct 21

8:00 Registration

8:30 **Invited Talk: Earth Science Collaborative for Ecological Forecasting** — **Ramakrishna Nemani, NASA Ames Research Center**

Session 3 - Chair: Nikunj Oza

9:15 Smoothed Quantile Regression for Statistical Downscaling of Extreme Events in Climate Modeling — Zubin Abraham, Pang-Ning Tan, Fan Xin

9:35 Time Series Reconstruction via Machine Learning: Revealing Decadal Variability and Intermittency in the North Pacific Sector of a Coupled Climate Model — Dimitris Giannakis, Andrew Majda

9:55 Semi-Supervised Novelty Detection with Adaptive Eigenbases, and Application to Radio Transients — David Thompson, Walid Majid, Kiri Wagstaff, Colorado Reed

10:15 Coffee Break

Session 4 - Chair: Karsten Steinhaeuser

10:45 Statistical Inference Based on Distances Between Empirical Distributions with Applications to AIRS Level-3 Data — Dunke Zhou, Tao Shi

11:05 A Model-Free Time Series Segmentation Approach for Land Cover Change Detection — Ashish Garg, Lydia Manikonda, Shashank Kumar, Vikrant Krishna, Shyam Boriah, Michael Steinbach, Durga Toshnival, Vipin Kumar, Christoper Potter, Steven Klooster

11:25 Sparse Machine Learning Methods for Understanding Large Text Corpora — Laurent El Ghaoui, Guan-Cheng Li, Viet-An Duong, Vu Pham, Ashok Srivastava, Kanishka Bhaduri

11:45 Towards an Automated Classification of Transient Events in Synoptic Sky Surveys — S. George Djorgovski, Ciro Donalek, Ashish Mahabal, Baback Moghaddam, Mike Turmon, Matthew Graham, Andrew Drake, Nihar Sharma, Yutong Chen

12:05 Lunch + **Lunch Keynote: Smart Profiling, Analytics and Reasoning -- An Analytics Approach to Problem Solving** — **Ying Chen, IBM Almaden Research Center**

Session 5 - Chair: Paul Melby

1:30 Anomaly Construction in Climate Data: Issues and Challenges — Jaya Kawale, Snigdhansu Chatterjee, Arjun Kumar, Stefan Liess, Michael Steinbach, Vipin Kumar

1:50 MiTexCube: MicroTextCluster Cube for Online Analysis of Text Cells — Duo Zhang, ChengXiang Zhai, Jiawei Han

2:10 On the Statistics and Predictability of Go-Arounds — Maxime Gariel, Kevin Spieser, Emilio Frazzoli

2:30 Coffee Break

3:00 **Invited Talk: A Comprehensive Model of All Astronomical Imaging Ever Taken** — **David Hogg, New York University**

Session 6 - Chair: Michael Way

3:45 Sparse Inverse Gaussian Process Regression with Application to Climate Network Discovery — Kamalika Das, Ashok Srivastava

4:05 A Novel Time Series Based Approach to Detect Gradual Vegetation Changes in Forests — Yashu Chamber, Ashish Garg, Varun Mithal, Ivan Brugere, Vipin Kumar, Michael Lau, Michael Steinbach, Christopher Potter, Steven Klooster, Vikrant Krishna, Shyam Boriah

4:25 A Machine Learning Approach for Probabilistic Drought Classification — Ganeshchandra Mallya, Shivam Tripathi, Rao S. Govindaraju

4:45 **Closing Remarks** — **Nitesh Chawla, University of Notre Dame**